

## **CLAIMS:**

Please **AMEND** the claims as follows

Please **CANCEL** claims 42-44.

1-8. (Previously Cancelled)

9. (Currently Amended) A computer-readable medium containing a data structure, the data structure comprising:

a plurality of rows; ~~and~~

a type column adapted for storing a ~~type value~~ row type for ~~associated with~~ each of the plurality of rows of the data structure, each row type ~~value~~ indicating columns of the data structure associated with the corresponding row, thereby enabling at least one of the number of the columns or the identity of the columns for each of the plurality of rows to vary based upon the row type ~~value~~ for that row, wherein the type column is separate from the columns identified by each row type ~~value~~ stored in the type column;

computer-readable instructions for storing data retrieved from two or more data stores in the columns for the plurality of rows; and

computer-readable instructions for storing a row type for each of the plurality of rows of the data structure in the type column, wherein the row type for a corresponding one of the plurality of rows indicates the columns storing data for the corresponding row;

wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store, thereby enabling data retrieved from data stores storing data in different formats to

be stored in a single data structure.

10. (Previously Presented) The computer-readable medium of claim 36 wherein a sub-column of one of the sub-rows of the nested data structure includes a further nested data structure.

11. (Previously presented) The computer-readable medium of claim 9 wherein the data structure is a nested conditional relation data structure.

12. (Currently Amended) The computer-readable medium of claim 9 wherein at least two rows of the data structure contain different row types ~~type values~~ in the type column.

13. (Currently Amended) The computer-readable medium of claim 36 wherein at least two sub-rows of the data structure contain different row types ~~type values~~ in the type sub-column.

14. (Currently Amended) The computer-readable medium of claim 9 wherein the row type ~~value~~ for each of the plurality of rows identifies a schema for a type.

15. (Currently Amended) A method in a computer system for storing data in ~~creating~~ a data structure, the method comprising:

~~—identifying a type value associated with each of the plurality of rows of the data structure, each type value indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary~~

~~based upon the type value for that row;~~

retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store;

identifying a row type corresponding to data to be stored in each of the plurality of rows of the data structure, each row type indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based upon the row type for that row;

storing the row type value for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling at least one of the number of the columns or the identity of the columns for each of the plurality of rows to vary based upon the row type value for that row, wherein the type column is separate from the columns identified by the row types type values stored in the type column; and

storing the data retrieved from the two or more data stores in the columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

~~storing data in the columns for each of the plurality of rows; and~~

~~retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the type value for that row.~~

16. (Previously Presented) The method of claim 38 wherein a sub-column of a sub-row of the nested data structure includes a further nested data structure.

17. (Previously Presented) The method of claim 15 wherein the data structure is a nested

conditional relation data structure.

18. (Currently Amended) The method of claim 15 wherein at least two rows of the data structure contain different row types ~~type values~~ in the type column.

19. (Currently Amended) The method of claim 38 wherein at least two sub-rows of the nested data structure contain different row types ~~type values~~ in the type column.

20. (Currently Amended) The method of claim 15 wherein the row type ~~value~~ for each of the plurality of rows identifies a schema for a type.

21. (Currently Amended) The method of claim 15, further comprising ~~including~~:

receiving a query directed to multiple data stores including a first data store and a second data store, wherein the query is in the second format, the first data store is in the first format and the second data store is in the third format;

generating a first query directed to the first data store based on the first format using the received query and a mapping between the first format and the second format;

generating a second query directed to the second data store based on the third format using the received query and a mapping between the third format and the second format;

executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the data structure; and

executing the second generated query based on the third format against the second data store in the third format to generate second data wherein the generated second data is stored in the data structure.

~~\_\_\_\_\_ providing a data store in a first format;~~  
~~\_\_\_\_\_ providing a mapping of the first format to a second format;~~  
~~\_\_\_\_\_ receiving a query for a data store based on the second format;~~  
~~\_\_\_\_\_ generating a query based on the first format using the received query and the provided mapping; and~~  
~~\_\_\_\_\_ executing the generated query based on the first format against the provided data store in the first format to generate data wherein the generated data is stored in the created data structure.~~

22. (Currently Amended) The method of claim 21, further comprising including converting the data of the created data structure into data in the second format.

23. (Previously presented) The method of claim 21 wherein the second format is an XML format.

24. (Currently Amended) A computer system for storing data in ~~creating~~ a data structure having a plurality of rows, comprising:

~~means for identifying a type value associated with each of the plurality of rows of the data structure, type value indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based upon the type value for that row; and~~

\_\_\_\_\_ means for retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store;

means for identifying a row type indicating data to be stored in each of the plurality of rows of the data structure, each row type indicating columns of the data structure associated with the corresponding row, thereby enabling at least one of the number of the columns or the identity of the columns for each of the plurality of rows to vary based upon the row type for that row;

means for storing the row type value for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling the columns for each of the plurality of rows to vary based upon the row type value for that row, wherein the type column is separate from the columns identified by the row types type values stored in the type column; and

means for storing the data retrieved from two or more data stores in the columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.

~~means for storing data in the columns for each of the plurality of rows; and~~

~~means for retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the type value for that row.~~

25. (Previously Presented) The computer system of claim 40 wherein a sub-column of a one of the sub-rows of the nested data structure includes a further nested data structure.

26. (Previously presented) The computer system of claim 24 wherein the data structure is a nested conditional relation data structure.

27. (Currently Amended) The computer system of claim 24 wherein at least two rows of

the data structure contain different row types ~~type values~~ in the type column.

28. (Currently Amended ) The computer system of claim 40 wherein at least two sub-rows of the nested data structure contain different row types ~~type values~~ in the type sub-column.

29. (Currently Amended) The computer system of claim 24 wherein the row type ~~value~~ for each of the plurality of rows identifies a schema for a type.

30. (Currently Amended) The computer system of claim 24 including:

~~—— a data store in a first format;~~

a mapping of ~~the~~ a first format to a second format;

a mapping of a third format to the second format;

means for receiving a query directed to multiple data stores including a first data store and a second data store~~for a data store~~, wherein the query is in ~~based on~~ the second format, the first data store is in the first format and the second data store is in the third format;

means for generating a first query directed to the first data store based on the first format using the received query and the mapping between the first format and the second format;

means for generating a second query directed to the second data store based on the third format using the received query and the mapping between the third format and the second format; and

means for executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the ~~created~~ data structure; and

means for executing the second generated query based on the third format against the second data store in the third format to generate second data wherein the generated second data is stored in the data structure.

31. (Previously presented) The computer system of claim 30 including converting the data of the created structure into data in the second format.

32. (Previously presented) The computer system of claim 30 wherein the second format is an XML format.

33. (Previously Cancelled)

34. (Previously Cancelled)

35. (Previously Cancelled)

36. (Currently Amended) The computer-readable medium as recited in claim 9, the data structure further comprising:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the sub-rows having an associated row type value in the type sub-column, each row type value in the type sub-column indicating a set of one or more sub-columns of the nested data structure associated with the corresponding sub-row, thereby enabling the set of sub-columns for each of the plurality of sub-rows to vary based upon the row type value for that sub-row, wherein the type sub-column is separate from the sub-columns identified by the row types type values



stored in the type sub-column.

37. (Previously Cancelled)

38. (Currently Amended) The method as recited in claim 15, wherein the data structure further comprises:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the sub-rows having a row type value stored in the type sub-column that indicates a set of one or more sub-columns of the nested data structure associated with the corresponding sub-row, thereby enabling the set of sub-columns for each of the plurality of sub-rows to vary based upon the row type value for that sub-row, wherein the type sub-column is separate from the sub-columns identified by the row types type values stored in the type sub-column.

39. (Previously Cancelled)

40. (Currently Amended) The computer system as recited in claim 24, wherein the data structure further comprises:

a nested data structure in a column of one of the plurality of rows of the data structure, the nested data structure including sub-rows and a type sub-column, each of the sub-rows having a row type value stored in the type sub-column indicating one or more sub-columns of the nested data structure associated with the corresponding sub-row, thereby enabling the sub-columns for each of the plurality of sub-rows to vary based upon the row type value for that sub-row, wherein the type sub-column is separate from the sub-columns identified by the type values row types stored in the type sub-column.

41. (Previously Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Currently Amended) The computer-readable medium as recited in claim 9, wherein the row types ~~type values~~ stored in the type column are not data elements and the columns identified by the row types ~~type values~~ are adapted for storing data elements.

46. (Currently Amended) The method as recited in claim 15, wherein the row types ~~type values~~ stored in the type column are not data elements and the columns identified by the row types ~~type values~~ are adapted for storing data elements.

47. (Currently Amended) The computer system as recited in claim 24, wherein the row types ~~type values~~ stored in the type column are not data elements and the columns identified by the row types ~~type values~~ are adapted for storing data elements.

48. (Currently Amended) The computer-readable medium as recited in claim 9, wherein data is stored in the columns for each of the plurality of rows, thereby enabling the data to be retrieved from the columns indicated by the row type ~~value~~ for that row.

49. (Currently Amended) The method as recited in claim 48, further comprising:  
computer-readable instructions for retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type ~~value~~ for that row.

50. (Currently Amended) The computer-readable medium as recited in claim 9, further comprising:  
~~computer-readable instructions for storing data in the columns for each of the plurality of rows; and~~  
computer-readable instructions for retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type ~~value~~ for that row.

51. (Previously Presented) The method as recited in claim 15, wherein the data stored in each of the columns is a primitive type or a nested conditional relation.

52. (Previously Presented) The method as recited in claim 17, further comprising:  
converting first data from a first format to a nested conditional relation prior to storing the data;  
wherein storing the data includes storing the converted first data.

53. (Previously Presented) The method as recited in claim 52, further comprising:  
converting second data from a second format to a nested conditional relation prior to

storing the data;

wherein storing the data further includes storing the converted second data.

Please **ADD** new claims as follows:

54. (New) The method as recited in claim 15, further comprising:

retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the row type for that row.

55. (New) The computer-readable medium as recited in claim 9, further comprising:

computer-readable instructions for receiving a query directed to multiple data stores including a first data store and a second data store, wherein the query is in the second format, the first data store is in the first format and the second data store is in the third format;

computer-readable instructions for generating a first query directed to the first data store based on the first format using the received query and a mapping between the first format and the second format;

computer-readable instructions for generating a second query directed to the second data store based on the third format using the received query and a mapping between the third format and the second format;

computer-readable instructions for executing the first generated query based on the first format against the first data store in the first format to generate first data wherein the generated first data is stored in the data structure; and

computer-readable instructions for executing the second generated query based on the third format against the second data store in the third format to generate second data wherein

the generated second data is stored in the data structure.

56. (New) A computer system for storing data in a data structure having a plurality of rows, comprising:

a processor; and

a memory, at least one of the processor or the memory being adapted for:

retrieving data from two or more data stores, wherein the two or more data stores include a first data store and a second data store, wherein the first data store stores data in a different format from data stored in the second data store;

identifying a row type corresponding to data to be stored in each of the plurality of rows of the data structure, each row type indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based upon the row type for that row;

storing the row type for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling at least one of the number of the columns or the identity of the columns for each of the plurality of rows to vary based upon the row type for that row, wherein the type column is separate from the columns identified by the row types stored in the type column; and

storing the data retrieved from two or more data stores in the columns for the plurality of rows, thereby enabling data retrieved from data stores storing data in different formats to be stored in a single data structure.